REMARKS

Claims 1-30 (of which claims 1, 11, 20 and 28 are independent) are currently pending. In the Office Action mailed July 16, 2004, all pending claims stand rejected under 35 U.S.C. § 103(a). To establish a *prima facie* case of obviousness under § 103 the cited references must teach or suggest all the claim limitations. (MPEP § 2142).

I. Claim Rejections under Rudrapatna in view of Smith

Claims 1-19 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rudrapatna, U.S. Patent Application Publication No. US 2002/0132600 (Rudrapatna) in view of Smith et al., U.S. Patent No. 6,006,075 (Smith). Applicants submit that neither Rudrapatna nor Smith, separately or in combination, teach or suggest "identifying one of the plurality of antennae to transmit the wireless signal to the receiver based on a reliability of the one of the plurality of antennae," as in claim 1 and similarly in claim 11, "a pathway manager coupled to the plurality of antennae ... configured to identify one of the plurality of antennae to transmit the wireless signal based on a reliability of the one of the plurality of antennae."

Rudrapatna discloses an antenna array including two groups of antennas that each has at least two pairs of elements. Each of the pairs in a group contains orthogonally polarized antennas. The antenna array selects and activates certain antennas in a group to enable the antenna array to operate in either a beam forming mode, a diversity mode or a MIMO mode. (Rudrapatna, Abstract).

Rudrapatna describes in Figure 1 that when switch 120 is set to position A and switch 122 is set to position C, the first group of antennas can perform beam forming between signals on paths 130 and 132 since both signals are similarly polarized by antennas 102 and 106

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respectively. Beam forming for the first group can also be achieved by setting switch 120 to position B and switch 122 to position D in which case antenna 108 and 104 are selected and activated by signals on paths 130 and 132. Therefore, selecting similarly polarized antennas from a group of antennas allows the selected antennas to perform the beam forming operation when activated. (Rudrapatna, ¶0029).

Rudrapatna thus teaches selecting more than one antenna to transmit signals since more than one antenna must be selected to achieve the beam forming operation. Note that a signal on path 138 in Figure 1 of Rudrapatna "causes switch 120 to be set to position A or B and switch 122 to be set to position C or D." (Rudrapatna, ¶0024). Thus, either antennas 102 and 106 are selected, or antennas 104 and 108 are selected. In either case, more than one antenna is selected.

In addition, Rudrapatna teaches selecting certain antennas in a group to enable the antenna array to operate in either a beam forming mode, a diversity mode or a MIMO mode. As a result, more than one antenna must be selected to cause the antenna array to operate in one of these modes. Furthermore, Rudrapatna selects which antennas to activate based on a desired transmission mode. *See* Rudrapatna ¶0025, lines 19-32. Thus, Rudrapatna does not teach or suggest "identifying *one* of the plurality of antennae to transmit the wireless signal," and Rudrapatna does not teach or suggest "identifying one of the plurality of antennae ... *based on a reliability* of the one of the plurality of antennae," as in claim 1 and similarly in claim 11. (emphasis added).

Similar to Rudrapatna, Smith teaches a system utilizing multiple antennas. In particular, Smith teaches a transmitter diversity assembly that transmits bursts of communication signals by alternate ones of a set of spatially-separated antennas to create transmission space diversity. (Smith, Col. 4, lines 52-56). Smith teaches that "[a]ntennas of a set of antennas are selectively

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coupled to the communication station to transmit the communication signals formed at the communication station." (Smith, Col. 5, lines 45-48). Smith describes that "[t]ransmission space diversity is [then] created by transmitting the downlink signal, at different times, from different, spatially-separated antennas." (Smith, Col. 6, lines 44-46). Specifically, Smith teaches that "switch positions of the RF switch 24 are switched through a selected sequence to connect successive ones of the transmitter elements 18 with successive ones of the antenna elements 26." (Smith, Col. 7, lines 13-17).

Smith teaches selecting multiple antennas pursuant to a frequency hopping scheme to create transmission space diversity for transmission of a communication signal. (Smith, Col. 7, lines 42-44). Thus, Smith does not teach or suggest "identifying *one* of the plurality of antennae to transmit the wireless signal," as in claim 1 and similarly in claim 11. (emphasis added). Furthermore, because Smith teach selecting the antennas pursuant to a frequency hopping scheme, Smith does not teach "identifying one of the plurality of antennae ... *based on a reliability* of the one of the plurality of antennae," as in claim 1 and similarly in claim 11. (emphasis added).

Since neither Rudrapatna nor Smith, separately or in combination, teach or suggest all claim limitations of claims 1 and 11, and because each of Rudrapatna and Smith teach using multiple antennas and thus teach away from the present claims, then the combination of Rudrapatna and Smith does not render claims 1-19 obvious.

The Examiner contends that Rudrapatna teaches that when the diversity function is selected, one of the antennas is identified and transmits signals to a receiver, at ¶0032, lines 1-25. (Office Action, p. 3). However, Rudrapatna specifically states that "when the second group operates in a MIMO mode (or diversity), switch 124 is set to position E while switch 126 is set to

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position H." (Rudrapatna, ¶0032, lines 2-4). Thus, in this configuration, Rudrapatna teaches that antennas 112 and 118 are selected. As a result, Rudrapatna does not teach identifying one antenna to transmit a signal, as in the present claims.

Further, the Examiner contends that Smith teaches antenna selection and individual configuration to transmit the wireless signal to the receiver. However, Smith specifically teaches selecting antennas pursuant to a frequency hopping scheme, and not based on reliability as in the present claims.

II. Claim Rejections under Rudrapatna in view of Smith and further in view of Katz

Claims 20-30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Rudrapatna in view of Smith, and further in view of Katz, U.S. Patent Application Publication No. US 2003/0032453 (Katz). Similar to Rudrapatna and Smith (as described above), Applicants submit that Katz does not teach or suggest "selecting one of the plurality of antennae to transmit the wireless signal to the receiver," as in claim 20 and similarly in claim 28, "identifying one of the plurality of antennae to transmit a wireless signal to a receiver."

Katz teaches a system for implementing diversity in transmission utilizing orthogonal antenna beams. (Katz, Abstract). Similar to Rudrapatna, Smith does not teach identifying one of a plurality of antennae to transmit a wireless signal because Smith is directed toward selecting multiple antenna elements within an antenna's enclosure. (Katz, ¶0020). Further, Katz describes that its method is used with a space-time transmit diversity (STTD) method in which a signal is continuously sent using at least two different antennas to a subscriber terminal. (Katz, ¶0035).

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Since neither Rudrapatna, Smith, nor Katz, separately or in combination, teach or suggest all claim limitations of claims 20 and 28, the combination of Rudrapatna, Smith and Katz does not render claims 20-30 obvious.

III. Summary

Applicants respectively submit that in view of the remarks above, all of the pending claims 1-30 are in condition for allowance and such action is respectively requested. The Examiner is invited to call the undersigned at (312) 913-0001 with any questions or comments.

Respectfully submitted,

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